383. (new) A method of identifying a T cell specific for an antigen of interest, comprising:

a) contacting a biological sample containing T cells suspected of being specific for the antigen of interest with an artificial antigen presenting cell that presents the antigen of interest in order to form a complex comprised of a T cell specific for the antigen of interest and an artificial antigen presenting cell that presents the antigen of interest, wherein the artificial antigen presenting cell comprises:

i. a liposome comprising a lipid bilayer, wherein the lipid bilayer is comprised of neutral phospholipids and cholesterol;

ii. at least one GM-1 ganglioside molecule disposed in the lipid bilayer;

iii. a cholera toxin ß subunit bound to a GM-1 ganglioside molecule;

iv. an MHC component loaded with the antigen of interest, wherein the antigen-loaded MHC component is bound to the cholera toxin ß subunit; and

v. an accessory molecule that can stabilize an interaction between a T cell receptor and the antigen-loaded MHC component; and

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b) detecting the complex, if formed, thereby identifying a T cell specific for the antigen of interest.

384. (new) A method according to claim 383 wherein the neutral phospholipids are phosphotidylcholine.

385. (new) A method according to claim 383 further comprising the step of isolating from the complex the T cell specific for the antigen of interest.

386. (new) A method according to claim 385 further comprising the step of characterizing a functional phenotype of the isolated T cells.

387. (new) A method according to claim 383 wherein the biological sample is selected from the group consisting of whole blood, blood cells, blood plasma, and tissue.

388. (new) A method according to claim 383 wherein the antigen of interest is selected from the group consisting of a peptide, a peptide derived from a recipient of a graft, a cancer cell-derived peptide, a peptide derived from an allergen, a donor-derived peptide, a pathogen-derived molecule, a peptide derived by epitope mapping, a self-derived molecule, and a self-derived molecule that has sequence identity with a pathogen-derived antigen.

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389. (new) A method according to claim 383 wherein artificial antigen presenting cell also comprises a label.

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390. (new) A method according to claim 389 wherein the label is bound to a molecule of the artificial antigen presenting cell selected from the group consisting of a neutral phospholipid, a cholesterol molecule, a GM-1 ganglioside molecule, a cholera toxin ß subunit, an MHC component, the antigen of interest, and an accessory molecule.

391. (new) A method according to claim 389 wherein the label is selected from the group consisting of biotin, vancomycin, a fluorochrome, FITC, and a radiolabel.

Remarks

Paper 23 sets out a 51-way restriction requirement and, prior to this response, represents the most recent correspondence in a series of pre-substantive examination communications between Applicant (through his representatives) and the PTO in connection with an application was that was filed in October 1999. In order to advance prosecution of this important case, Applicant herein has canceled the more than 200 previously pending claims, and added new claims 383-391, only one of which is independent.

Independent claim 383 is drawn to a method of identifying antigen-specific T cells, which corresponds to now-canceled claim 162. In Paper 23, Claim 162 was designated as Group 1 of 51 allegedly independent and distinct inventions. Given the correspondence in the subject matter of claims 163 and 383, Applicant respectfully submits that new claim 383 and its dependent claims would fit within the definition of Group 1, as set forth in Group 1.